

AMENDMENTS TO THE CLAIMS:

(1) Please cancel claims 1-18 without prejudice or disclaimer of the subject matter thereof.

(2) Please add new claims 19-38.

Claims 1-18 (Cancelled).

Claim 19 (New): A camshaft producing system for manufacturing a camshaft from a shaft and at least one cam, said camshaft producing system comprising:

a positioning element removably affixed to said shaft;

at least one knurling station having a corresponding workpiece-receiving socket for receiving said shaft using said positioning element affixed thereon, said knurling station being adapted to rotate said shaft;

at least one press-on station having a corresponding workpiece-receiving socket for receiving said shaft using said positioning element affixed thereon, said press-on station being adapted to press said cam on to said shaft; and a manipulating device for transporting said shaft, said manipulating device adapted to be attachable to said positioning element.

Claim 20 (New): The camshaft producing system as set forth in claim 19, wherein said knurling station further comprising a motor for rotating said shaft.

Claim 21 (New): The camshaft producing system as set forth in claim 20, wherein said positioning element further comprising a conical guide-in area adapted to tightly fit into said corresponding workpiece-receiving socket of said knurling and press-on stations.

Claim 21 (New): The camshaft producing system as set forth in claim 20 further comprising a taper key insertable into a groove defined in said positioning element and a groove defined in said workpiece-receiving socket, wherein said taper key is used in said knurling station to transmit the rotary movement from said motor via said workpiece-receiving socket to said shaft and for specifying the angular position of said respective cam in relation to said press-on station.

Claim 22 (New): The camshaft producing system as set forth in claim 21, wherein said positioning element further comprising a jaw-shaft expansion and a taper key 29,

wherein said taper key is insertable into said jaw-shaft expansion and said positioning element.

Claim 23 (New): The camshaft producing system as set forth in claim 21, wherein said positioning element is selected from the group consisting of a mandrel, and a chuck.

Claim 24 (New): The camshaft producing system as set forth in claim 21, wherein said knurling station further comprising rollers which can be displaced in the x-direction and in the z-direction, said rollers being adapted to be moved by means of a guide into the correct height position for knurling.

Claim 25 (New): The camshaft producing system as set forth in claim 24, wherein said rollers having a plurality of adjacent grooves adapted to form, over the circumference of said shaft, indentations and material accumulations on said shaft when said rollers are pressed in towards said shaft.

Claim 26 (New): The camshaft producing system as set forth in claim 25, wherein said press-on station further comprising a guide and an adjustable stop, wherein said guide having a seat adapted to hold said cam while retaining its angular position during the pressing-on process in the Z direction, wherein said adjustable stop being adapted to define the height up to which said cam is to be pressed on to said shaft.

Claim 27 (New): A camshaft producing system comprising:
a shaft having a base body, a groove in the area of the shaft end which serves as a position reference;
at least one camshaft having a centrally defined opening;
a positioning element removably affixed to said shaft;
at least one knurling station having a corresponding workpiece-receiving socket for receiving said shaft using said positioning element affixed thereon, a motor adapted to rotate said shaft, and at least one roller, said rollers being displaceable in the x-direction and in the z-direction by means of a guide;
at least one press-on station having a corresponding workpiece-receiving socket for receiving said shaft using said positioning element affixed thereon, said press-on station being adapted to press said cam on to said shaft; and

a manipulating device for transporting said shaft, said manipulating device adapted to be attachable to said positioning element; wherein said roller having a plurality of adjacent grooves adapted to form, over the circumference of said shaft, indentations and material accumulations on said shaft when said roller is pressed in towards said shaft; wherein said positioning element having a conical guide-in area adapted to tightly fit into said corresponding workpiece-receiving socket of said knurling and press-on stations.

Claim 28 (New): The camshaft producing system as set forth in claim 27 further comprising a taper key insertable into a groove defined in said positioning element and a groove defined in said workpiece-receiving socket, wherein said taper key is used in said knurling station to transmit the rotary movement from said motor via said workpiece-receiving socket to said shaft and for specifying the angular position of said respective cam in relation to said press-on station.

Claim 29 (New): The camshaft producing system as set forth in claim 28, wherein said press-on station further comprising a guide and an adjustable stop, wherein said guide having a seat adapted to hold said cam while retaining its angular position during the pressing-on process in the Z direction, wherein said adjustable stop being adapted to define the height up to which said cam is to be pressed on to said shaft.

Claim 30 (New): A method of producing a camshaft from a shaft and at least one camshaft, said method comprising the steps of:

providing a camshaft producing system comprising: a positioning element removably affixed to a shaft; at least one knurling station having a corresponding workpiece-receiving socket for receiving said shaft using said positioning element affixed thereon, said knurling station being adapted to rotate said shaft; at least one press-on station having a corresponding workpiece-receiving socket for receiving said shaft using said positioning element affixed thereon, said press-on station being adapted to press said cam on to said shaft; and a manipulating device for transporting said shaft, said manipulating device adapted to be attachable to said positioning element;

affixing said positioning element to the end of said shaft;
transporting said positioning element and shaft to said knurling station via said manipulating device;
affixing said positioning element and shaft to said knurling station for the duration of a first machining step;
transporting said positioning element and shaft from said knurling station to said press-on station via said manipulating device after said first machining step is complete; and
affixing said positioning element and shaft to said press-on station for the duration of second machining step.

Claim 31 (New): The method of producing a camshaft as set forth in claim 30, wherein said shaft is knurled in said first machining step.

Claim 32 (New): The method of producing a camshaft as set forth in claim 31, wherein a cam is pressed onto said shaft in said second machining step.

Claim 33 (New): The method of producing a camshaft as set forth in claim 32, wherein said shaft is knurled on said knurling station in the area of the position provided for said cam, then in a second step said cam is pressed on said press-on station in said provided position and said two steps are then repeated for further cams.

Claim 34 (New): The method of producing a camshaft as set forth in claim 33 further comprising the step of removing said positioning element from said shaft after the last pressing-on of said cam in said press-on station.

Claim 35 (New): The method of producing a camshaft as set forth in claim 34, wherein multiple knurling steps are carried out in respectively the same knurling station, and multiple pressing steps are carried out in respectively the same press-on station.

Claim 36 (New): The method of producing a camshaft as set forth in claim 34, wherein multiple knurling steps are carried out in a plurality of respectively the same knurling station, and multiple pressing steps are carried out in a plurality of respectively the same press-on station.

Claim 37 (New): The method of producing a camshaft as set forth in claim 34, wherein said shaft is fixed using said positioning element first in said workpiece-receiving sockets of said knurling and press-on stations.

Claim 38 (New): The method of producing a camshaft as set forth in claim 34, wherein in the defined position for fixing said shaft onto said press-on station using said positioning element pre-defines the angular position for pressing-on said.